CONDITION

Penile cancer

Penile cancer is cancer that begins in the skin or tissues of the penis.

WHAT IT IS
Cancer arising in penile skin or tissues

BODY SYSTEM
Male reproductive and urinary systems

MAIN SYMPTOMS
Persistent growth, sore, bleeding, skin colour change

WHAT CAUSES IT
Cell changes linked to HPV, smoking, or chronic inflammation

HOW IT IS DIAGNOSED
Examination and biopsy of the abnormal area

MAIN TREATMENT
Surgery, with radiotherapy or systemic treatment when needed

CAN IT BE CURED?
Sometimes - early cancer often curable

IS IT AN EMERGENCY?
Sometimes - heavy bleeding or urinary blockage

LONG-TERM OUTLOOK
Often good early; poorer after distant spread

Overview

Penile cancer begins when abnormal cells grow out of control in the penis. It most often starts in the skin of the glans, which is the head of the penis, or under the foreskin. Most penile cancers are squamous cell cancers, meaning they begin in the flat cells covering these areas.

Some early cell changes are limited to the surface of the skin. These may be called penile intraepithelial neoplasia, or PeIN. Without treatment, some cases can develop into invasive cancer, which has grown into deeper tissue.

Penile cancer is uncommon. Many changes in the penis have other causes, such as infection, irritation, eczema, psoriasis, or a non-cancerous skin condition. However, a persistent lump, sore, rash, or skin change should be examined.

Finding penile cancer early matters. Early treatment is more likely to remove the cancer while

preserving as much normal tissue, urinary function, and sexual function as possible. Cancer that reaches the lymph nodes in the groin or spreads elsewhere usually needs more extensive treatment.

Symptoms

The first sign is often a change in the skin rather than pain. The change may be on the glans, foreskin, or shaft.

Possible symptoms include:

Swollen groin lymph nodes do not always mean cancer has spread. Lymph nodes can also enlarge because of infection or inflammation.

Penile cancer can be painless in its early stages. Do not wait for pain before arranging an examination of a change that persists or grows.

- A lump, raised growth, thickened patch, or wart-like area
- A sore or ulcer that does not heal
- Bleeding from the penis or from beneath the foreskin
- A red, pale, brown, or blue-grey patch of skin
- A persistent rash, crusted area, or discharge with an unpleasant smell
- Difficulty pulling back the foreskin
- Ongoing pain, irritation, or swelling at the end of the penis
- A lump or swelling in the groin

Causes and risk factors

Penile cancer develops because of changes in a cell's DNA. The exact reason these changes happen is not always known.

Infection with certain high-risk types of human papillomavirus, or HPV, contributes to some penile cancers. HPV is a common virus passed through close skin-to-skin sexual contact. An HPV-related cancer can appear many years after the infection. It does not show when the infection occurred or imply recent infidelity.

Other factors associated with a higher risk include:

Poor hygiene is sometimes discussed as a risk factor, particularly when phimosis makes

cleaning difficult. This should not be treated as blame. Cancer develops through several interacting factors, and people with careful hygiene can still develop it.

Penile cancer itself is not contagious. It cannot be passed to another person through sex or everyday contact.

- Smoking
- Phimosis, where the foreskin cannot be pulled back
- Long-term inflammation or repeated irritation beneath the foreskin
- Lichen sclerosus, a condition that causes fragile, pale, or tightened genital skin
- A weakened immune system, including from HIV or medicines that suppress immunity
- Previous PeIN or other HPV-related cell changes
- Increasing age

Diagnosis

A clinician will ask about the change, how long it has been present, and whether there has been bleeding, pain, discharge, or difficulty passing urine. They will examine the penis and feel the lymph nodes in both sides of the groin.

A biopsy is needed to confirm penile cancer. During a biopsy, a small sample of the abnormal tissue is removed and examined under a microscope. Local anaesthetic is commonly used to numb the area. Small abnormalities may sometimes be removed completely during this procedure.

If cancer is found, further tests show how deeply it has grown and whether it has spread. This process is called staging. Tests may include MRI, ultrasound, CT, or PET-CT imaging.

Enlarged groin lymph nodes may be checked with a needle biopsy. Even when nodes do not feel enlarged, some people need a sentinel lymph node biopsy or another procedure to look for small areas of cancer. A sentinel node is one of the first lymph nodes into which cancer is likely to spread.

The stage, cancer cell type, grade, location, and lymph node findings guide treatment. Grade describes how abnormal the cells look and can help estimate how quickly the cancer may behave.

Treatment and management

Treatment is usually planned by a specialist team experienced in penile cancer. The aim is to remove or control the cancer while preserving the appearance and function of the penis whenever this can be done safely.

Surface changes and very early cancer: PeIN or a small cancer limited to the skin may be treated with medicated creams, laser treatment, circumcision, removal of the affected skin, or a procedure called glans resurfacing. Glans resurfacing removes the surface tissue from the head of the penis and covers it with a skin graft.

Local surgery: A small invasive cancer may be removed with a margin of healthy tissue around it. Cancer confined to the foreskin may be treated with circumcision. Some cancers require removal of part or all of the glans.

Partial or total penectomy: A deeper or larger cancer may require removal of part of the penis. Less commonly, the whole penis must be removed. After total penectomy, the surgeon creates a new opening for urine in the area behind the scrotum. Urination is then usually done while sitting.

Lymph node treatment: Cancer in the groin lymph nodes may be treated by removing affected nodes. Some people need surgery on one or both sides of the groin or deeper nodes in the pelvis. Radiotherapy or chemotherapy may also be considered, depending on the extent of spread.

Radiotherapy: High-energy radiation can destroy cancer cells. It may be an alternative to surgery for selected cancers, or it may be used before or after other treatments. Radiotherapy can cause skin soreness, swelling, scarring, or later changes in sexual function.

Systemic treatment: Chemotherapy travels through the bloodstream and may be used for cancer involving several lymph nodes or other parts of the body. Immunotherapy or targeted treatments may be options in selected advanced cases, often based on tumour testing, previous treatment, or access to a clinical trial.

Supportive and palliative care can help at any stage. It treats symptoms such as pain, wound problems, swelling, and emotional distress. It can be provided alongside treatment intended to control or cure the cancer.

Complications

Penile cancer and its treatment can affect urination, sexual function, body image, and relationships. The effects depend on where the cancer is located and how much tissue needs to be treated.

Possible complications include:

Fertility may be preserved after many treatments because sperm are made in the testicles. However, chemotherapy, radiotherapy, sexual changes, or more extensive surgery can affect the ability to have biological children. Fertility preservation can sometimes be discussed before treatment.

Specialist nurses, sexual health services, pelvic health teams, counsellors, and peer-support groups can help with practical and emotional concerns.

- Narrowing of the urinary opening or difficulty directing urine
- Changes in sensation, erections, orgasm, or penetrative sex
- Infection, bleeding, delayed wound healing, or scarring after treatment
- Lymphoedema, which is persistent swelling after groin lymph nodes are removed or treated
- Cancer returning in the penis, groin nodes, or elsewhere
- Anxiety, low mood, embarrassment, or concerns about intimacy

Prevention

Penile cancer cannot always be prevented. Some people develop it without a clear avoidable cause.

HPV vaccination protects against HPV types responsible for several cancers and may reduce the chance of HPV-related penile cell changes. Eligibility and vaccine programmes differ between countries.

Condoms reduce HPV transmission but do not provide complete protection because HPV can affect skin not covered by a condom. Not smoking can lower risk and also supports healing if treatment is needed.

Gently cleaning beneath a retractable foreskin may help prevent long-term irritation. Do not force back a tight foreskin. Phimosis, repeated inflammation, sores, or lichen sclerosus should be medically assessed and treated.

Circumcision lowers some risk factors when done earlier in life, but adult circumcision is not routinely needed solely to prevent penile cancer. It may be recommended for specific problems such as severe phimosis or persistent foreskin inflammation.

Living with it and what to expect

The outlook is generally better when penile cancer is found before it has spread to lymph nodes. Early cancers can often be treated with tissue-preserving procedures. More advanced cancer may require several forms of treatment and can be harder to cure.

Follow-up continues after treatment because cancer can return. Appointments are usually more frequent during the first years and may become less frequent over time. Follow-up may include examination of the penis and groin, discussion of symptoms, and imaging when appropriate.

You may be shown how to check the treated area and groin between appointments. New lumps, sores, skin changes, or groin swelling should be reported rather than saved for the next routine visit.

Recovery after surgery differs with the procedure. Some people retain the ability to urinate standing and have erections or penetrative sex. Others need time to adapt to changes in sensation, penile length, or the position of the urinary opening. Rehabilitation and sexual counselling can help people explore comfortable ways of maintaining intimacy.

Lymphoedema may develop soon after lymph node treatment or months to years later. Early assessment can help manage swelling through skin care, movement, compression, and specialist therapy.

Many people return to work, relationships, exercise, and everyday activities after treatment. Emotional recovery may take longer than physical healing, and concerns about recurrence can increase around follow-up visits. Support is available even after cancer treatment has ended.

When to get medical help

Arrange a medical appointment promptly if you notice a penile lump, growth, ulcer, bleeding, unexplained discharge, persistent rash, colour change, or foreskin problem. This is especially important if the area is growing or has not healed within a few weeks.

Contact your cancer team between routine appointments if you have a new change in the penis, a groin lump, worsening swelling, or treatment side effects that are not settling.

Seek urgent same-day medical care for rapidly increasing redness or swelling, fever with a penile wound, worsening discharge, or significant difficulty passing urine.

Go to an emergency department for heavy bleeding that does not stop, complete inability to pass urine, fainting, or severe rapidly worsening pain and swelling.

Common questions

Is every lump or sore on the penis cancer?

No. Infections, cysts, inflammation, skin conditions, and irritation are more common causes. Appearance alone cannot reliably identify cancer, so a persistent change needs an examination and sometimes a biopsy.

Will the whole penis have to be removed?

Not usually for an early, small cancer. Creams, laser treatment, circumcision, skin removal, or tissue-preserving surgery may be possible. Partial or total removal is considered when necessary to control a larger or deeper cancer.

Is penile cancer caused by an STI?

Some cases are linked to high-risk HPV, which is sexually transmitted. Other cases are not HPV-related. Penile cancer itself is not a sexually transmitted infection and cannot be passed to a partner.

Can I have sex after treatment?

Many people can, although sensation, erections, penetration, and comfort may change. The effect depends on the treatment. Sexual rehabilitation, counselling, and an open discussion with a partner can help.

Can penile cancer spread?

Yes. It most often spreads first to lymph nodes in the groin and then to pelvic nodes. Advanced cancer can spread to organs elsewhere in the body, although this is less common when it is found early.

Can penile cancer come back after treatment?

Yes, recurrence is possible, including after tissue-preserving treatment. This is why regular follow-up and reporting new changes are important. A local recurrence may still be treatable, particularly when found early.

Sources

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